

## TWO NEW SPECIES OF THE TRIBE EUCOSMINI (TORTRICIDAE)

ANDRE BLANCHARD

3023 Underwood, Houston, Texas 77025

AND

EDWARD C. KNUDSON

804 Woodstock, Bellaire, Texas 77401

**ABSTRACT.** *Phaneta cruentana* and *Eucosma fritillana* are described. Imagines and male and female genitalia are figured.

### *Phaneta cruentana* A. Blanchard and E. Knudson, **new species**

Figs. 1, 3, 5

**Head:** Palpi yellowish white, exceeding front by one eye diameter. Frons and vertex yellowish white with darker scaling centrally. Antennae simple, white with dark dorsal and ventral longitudinal stripes.

**Thorax:** Patagia yellowish white shading to orange at tips. Tegulae yellowish white. Mesonotum yellowish white to orange near center.

**Abdomen:** Yellowish white.

**Maculation** (Fig. 1): *Forewing:* Ground yellowish white with light brown fascia. Costal strigulations dark brown. Inner half of wing thickly clothed with orange red scales to outer fifth. Ocelloid patch divided vertically, inner half buff, outer half yellowish white with a few black scales. Terminal row of white tipped black scales. Cilia orange at apex, buff below. *Hindwing:* ashy gray with grayish white cilia.

**Venation:** *Hindwing:* M3 and Cu1 anastomosing halfway between lower outer angle of cell and outer margin. M2 well separated from stalk of M3 and Cu1. Rs and M1 approximate towards base.

**Length of forewing:** Males, 6.4-8.0 mm, average 7.3 mm; females, 7.2-7.8 mm, average 7.6 mm.

**Male genitalia** (Fig. 3): Slide A.B. 4513, paratype from type locality, 28.VI.78.

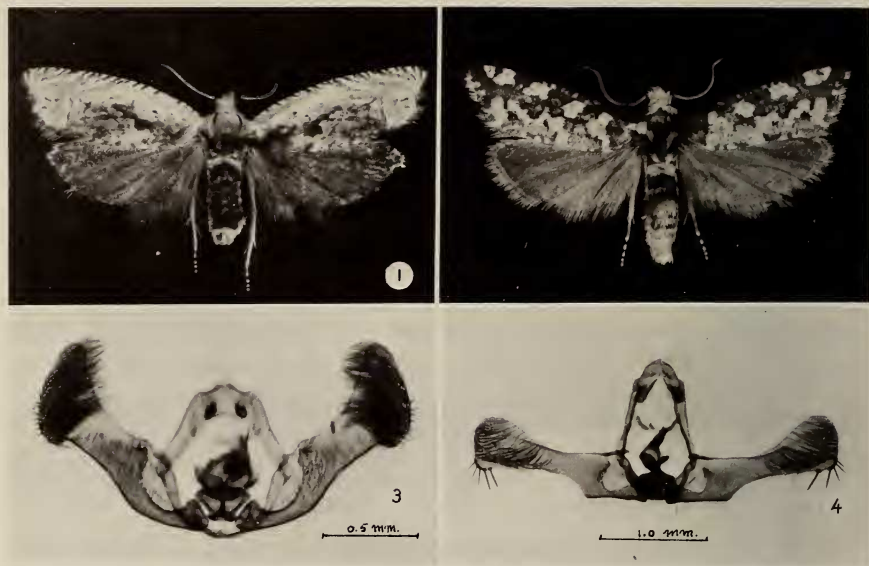
**Female genitalia** (Fig. 5): Slide A.B. 4439, paratype from type locality, 6.X.66.

**Holotype:** Male, Engeling Wildlife Management Area, near Tennessee Colony, Anderson Co., Texas, 28.VI.78, deposited in the National Museum of Natural History (NMNH) (No. 76733); collected by A. & M. E. Blanchard.

**Paratypes:** Same locality as holotype, 6.X.66, 1 female; 28.VI.78, 11 males, 2 females; all collected by A. & M. E. Blanchard. 12.VI.80, 4 females; collected by E. Knudson. In addition, there is a female specimen in the NMNH with a white label "Dallas, Texas" and a yellow label "Fernald Collection." We labeled it as a paratype although it lacks an abdomen and the wings need careful respreading.

### REMARKS

Dr. Richard Brown who has examined some of the specimens comments: "*P. cruentana* appears to be closely related to *P. griseocapitana* (Walsingham) and *P. imbridana* (Fernald). The presence of the well defined brownish orange patch on the inner margin of the forewing of *cruentana* distinguishes this species from the latter two. The male genitalia of *cruentana* are more similar to *griseocapitana* than to *imbridana*. The dorsolateral corners of the tegumen are rounded



FIGS. 1-4. Holotypes: 1, *Phaneta cruentana*; 2, *Eucosma fritillana*. Male genitalia: 3, *P. cruentana*; 4, *E. fritillana*.

in *cruentana* and lobed in *griseocapitana*. The ventral emargination of the valva neck is deeper in *griseocapitana* than in *cruentana*. The female genitalia of *griseocapitana* and *imbridana* have not been compared with *cruentana*."

### *Eucosma fritillana* A. Blanchard and E. Knudson, new species

Figs. 2, 4, 6

**Head:** Palpi white dorsally, white speckled with brown ventrally, exceeding front by half an eye diameter. Frons and vertex creamy white. Antennae simple, white.

**Thorax:** Tegulae and patagia light brown with white tips. Mesonotum light brown.

**Abdomen:** Light buff.

**Legs:** Femora white, tibia and tarsus banded with white and gray brown.

**Maculation** (Fig. 2): *Forewing:* Ground brownish gray (individual scales gray with brown tips giving a powdery appearance). Variable creamy white spots, some of which are partially outlined by dark brown scales. White strigulations over inner half of costa. Cilia white. Hindwing light brownish gray, cilia white.

**Venation:** *Hindwing:* Cu1 and M3 united. M2 from base of stalk of Cu1 and M3. Rs and M1 approximate towards base.

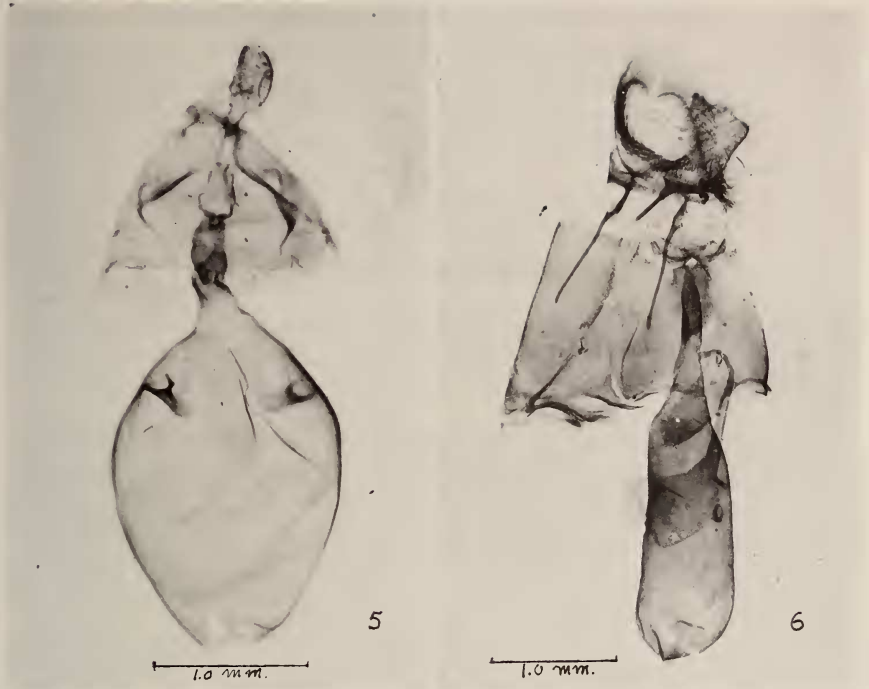
**Length of forewing:** Males, 6.8-8.7 mm, average 7.6 mm; females, 7.6-8.9 mm, average 8.1 mm.

**Male genitalia** (Fig. 4): Slide A.B. 4514, paratype from type locality, 28.VI.78.

**Female genitalia** (Fig. 6): Slide A.B. 4601, paratype from type locality, 28.VI.78.

**Holotype:** Male, Engeling Wildlife Management Area, near Tennessee Colony, Anderson Co., Texas, 28.VI.78, deposited in the National Museum of Natural History (No. 76734); collected by A. & M. E. Blanchard.

**Paratypes:** Same locality as holotype, 28.VI.78, 17 males, 7 females; all collected by



FIGS. 5, 6. Female genitalia: 5, *Phaneta cruentana*; 6, *Eucosma fritillana*.

A. & M. E. Blanchard. 5 miles west of Buffalo, Freestone Co., Texas, 29.IV.78, 3 males; same locality as holotype, 12.VI.80, 11 males, 3 females; all collected by E. Knudson.

#### REMARKS

Dr. Richard Brown examined some of the specimens and comments: "*E. fritillana* appears to be closely related to *E. robinsonana* (Grote). The two species can be easily separated by forewing color and pattern. The light brown and creamy white markings of *fritillana* are less contrasting than the dark brown and white markings of *robinsonana*; the pattern is banded in *robinsonana* and irregularly checkered in *fritillana*. In the male genitalia, *fritillana* has larger socii, a more angular ventral margin of the sacculus, and fewer and smaller spines on the cucullus than *robinsonana*. The female genitalia of the two species lack distinctive differences."

#### ACKNOWLEDGMENTS

We are greatly indebted to Dr. J. F. Gates Clarke for his critical examination of the manuscript and much of the type material and to Dr. Richard L. Brown for examining

some of the type material, comparing it to known species, and providing the comments that appear above.

We are also grateful to the Texas Parks and Wildlife Department for their continued interest and cooperation, and to the manager and his associates at the Engeling Wildlife Management Area, near Tennessee Colony, Texas, for their assistance and hospitality during our collecting trips there.

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## GENERAL NOTE

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### LONGEVITY ESTIMATES OF FOUR INDIVIDUAL BUTTERFLIES

It has been stated that little is known about how long butterflies live (Howe, 1975, *The Butterflies of N. Amer.*, Doubleday and Co., Inc., N.Y.). As a by-product of tagging and marking for Professor Urquhart's migration studies, longevity estimates of four common California butterflies were obtained. The alar tags with Urquhart's address and a serial number were used in some cases, and in others, alar tags with my phone number were used. Also, colored spots and bars made with a felt tipped marker on the wings were used. All butterflies tagged and marked were wild and of unknown age when caught and released.

Three butterfly species were marked and tagged in a suburban Citrus Heights, California yard and adjacent acre-sized pasture. It was mostly *Plantago lanceolata*, *Trifolium repens*, and a variety of unknown grasses. The yard was mixed unknown grasses. The trees were *Quercus wislizenii*, *Catalpa speciosa*, *Juglans hindsii*, and *Fraxinus velutina*. There were various flowering shrubs.

A *Precis coenia* (Huber) (Nymphalidae) was marked 27 August 1977 and recaptured 14 days later on 10 September 1977 in the pasture. There is hesitancy in reporting such a short period of time, since it migrates, and therefore, it must live for several months. However, after three years tagging and marking 1947 individuals and recapturing 147, 14 days was the longest period obtained for this species. A female *Pieris rapae* (Linnaeus) (Pieridae) was marked 27 May 1977 and recaptured 39 days later on 5 July 1977 in the yard. Two hundred and forty-two were recaptured out of 1494 marked over a ten year period. A *Papilio rutulus* (Lucas) (Papilionidae) was tagged 15 April 1971 and recaptured 39 days later 24 May 1971. Ninety-four were recaptured out of 957 tagged in 11 years.

In a woodland in the Sierra Nevada foothills about three miles southeast of Loomis, Placer County, California, dominated by *Q. wislizenii*, *Baccharis pilularis* and a variety of unknown annual grasses, a *Battus philenor* (Linnaeus) (Papilionidae) was tagged 3 April 1971 and recaptured 44 days later on 13 June 1971. One hundred and thirty-eight were recaptured out of 636 marked and tagged in four months.

The tagged and marked butterflies recaptured and cited here were apparently in good shape; consequently, there is no telling how long they lived. For this reason these results are given as longevity estimates.

LESLIE V. SMITH, *Citrus Heights, California 95610.*

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\* The substance of this report was presented to the Annual Meeting of the Pacific Slope Section of The Lepidopterists' Society, University of California, Davis, 24-26 August 1979.